

# Appendix H – Reformatted Draft EIS Impact Summary Table

*Note: This table is a clerical reformatting of Tables ES-1 and 10.2-2 from the Draft Environmental Impact Statement (EIS) in response to a US Environmental Protection Agency request. It is intended to provide a clearer comparison of the Draft EIS alternatives. Any changes in impacts or mitigation for the Alternative E-2 Straight Option subsequent to the Draft EIS are contained in the Final EIS, not this table.*

Summary of Environmental Impacts (with mitigation) from the Draft EIS (see *note on Appendix H cover sheet*)

Impact		No Build Alternative	Existing US 53 Alternative	Alternative M-1	Alternative E-1A RSS Option	Alternative E-1A Bridge Option	Alternative E-2 Straight Option	Alternative E-2 Curved Setback Option
Traffic Volumes		<b>Impact:</b> Substantial increase in traffic volumes on designated reroute roadways and local roadways <b>Mitigation:</b> None proposed	No impact	Daily traffic volumes expected to be similar to the traffic volumes on the easement segment	Daily traffic volumes expected to be similar to the traffic volumes on the easement segment	Daily traffic volumes expected to be similar to the traffic volumes on the easement segment	Daily traffic volumes expected to be similar to the traffic volumes on the easement segment.	Daily traffic volumes expected to be similar to the traffic volumes on the easement segment.
Traffic Operations		<b>Impact:</b> Four segments would operate at LOS E/F by 2017. Three existing at-grade railroad crossings were not factored into the operations model. <b>Mitigation:</b> None proposed	No impact	Southern Drive intersection would operate at LOS E/F by 2037 with turning volumes of 400 or 600 vehicles	The 2nd Avenue intersection and the MN 135 intersection/interchange options would operate at acceptable LOS through 2037	The 2nd Avenue intersection and the MN 135 intersection/interchange options would operate at acceptable LOS through 2037	The 2nd Avenue intersection and the MN 135 intersection/interchange options would operate at acceptable LOS through 2037	The 2nd Avenue intersection and the MN 135 intersection/interchange options would operate at acceptable LOS through 2037
Travel Times		<b>Impact:</b> Increase in travel time doubles between Virginia and Eveleth (+9 minutes), and nearly quadruples (+21 minutes) from Virginia to Gilbert <b>Mitigation:</b> None proposed	No impact	Negligible change	Negligible change	Negligible change	Negligible change	Negligible change
Safety		<b>Impact:</b> Increased safety concerns on reroute roadways due to railroad crossings, increased congestion, and roadways over capacity <b>Mitigation:</b> None proposed	No impact	No impact	<i>Intersection Option:</i> Steeper (6%) grade at the east approach would increase the potential for semi-truck/vehicle conflict at the US 53/MN 135 intersection, increasing crash risk over the Interchange Option  <i>Interchange Option:</i> Flatter grade (2%) at the east approach would result in a lower crash risk than the Intersection Option	<i>Intersection Option:</i> Steeper (6%) grade at the east approach would increase the potential for semi-truck/vehicle conflict at the US 53/MN 135 intersection, increasing crash risk over the Interchange Option  <i>Interchange Option:</i> Flatter grade (2%) at the east approach would result in a lower crash risk than the Intersection Option	<i>Intersection Option:</i> Steeper (6%) grade at the east approach would increase the potential for semi-truck/vehicle conflict at the US 53/MN 135 intersection, increasing crash risk over the Interchange Option  <i>Interchange Option:</i> Flatter grade (2%) at the east approach would result in a lower crash risk than the Intersection Option	<i>Intersection Option:</i> Steeper (6%) grade at the east approach would increase the potential for semi-truck/vehicle conflict at the US 53/MN 135 intersection, increasing crash risk over the Interchange Option  <i>Interchange Option:</i> Flatter grade (2%) at the east approach would result in a lower crash risk than the Intersection Option
Intermodal	Bicycles and Pedestrians	<b>Impact:</b> Trails would continue until landowner removes them <b>Mitigation:</b> None proposed; Mesabi Trail would need to be realigned (by others) to a new corridor	No impact	<b>Impact:</b> Trails would continue until landowner removes them <b>Mitigation:</b> None proposed; Mesabi Trail would need to be realigned (by others) to a new corridor	<b>Impact:</b> Crosses Mesabi Trail several times <b>Mitigation:</b> A permit for the Mesabi Trail could be allowed along the east side of the alignment	<b>Impact:</b> Crosses Mesabi Trail several times <b>Mitigation:</b> A permit for the Mesabi Trail could be allowed along the east side of the alignment	<b>Impact:</b> Crosses Mesabi Trail several times <b>Mitigation:</b> A permit for the Mesabi Trail could be allowed along the east side of the alignment	<b>Impact:</b> Crosses Mesabi Trail several times <b>Mitigation:</b> A permit for the Mesabi Trail could be allowed along the east side of the alignment
	Bus Transit	<b>Impact:</b> Substantially lengthened routes (as noted under Travel Times above) <b>Mitigation:</b> None proposed	No impact	Negligible change	Negligible change	Negligible change	Negligible change	Negligible change
	Rail	<b>Impact:</b> Three existing at-grade rail crossings would be part of the designated US 53 reroute, increasing safety risk to travelers at these crossings <b>Mitigation:</b> None proposed	No impact	No impact	No impact	No impact	No impact	No impact
	Aviation	<b>Impact:</b> No direct impacts to the airport; travel time to/from the airport may be increased for some users <b>Mitigation:</b> None proposed	No impact	No impact	No impact	No impact	No impact	No impact
	Other	<b>Impact:</b> Adverse impacts to school bus and emergency service routes (see Travel Time) <b>Mitigation:</b> None proposed	No impact	No impact	No impact	No impact	No impact	No impact

Impact	No Build Alternative	Existing US 53 Alternative	Alternative M-1	Alternative E-1A RSS Option	Alternative E-1A Bridge Option	Alternative E-2 Straight Option	Alternative E-2 Curved Setback Option
Right-of-Way	No impact	<b>Impact:</b> Requires the fee acquisition of 77 acres of land to maintain existing easement agreement area, including mineral rights  <b>Mitigation:</b> Compensate landowners via federal Uniform Relocation Act	<b>Impact:</b> Right-of-way required from 13 parcels (no relocations) with majority from RGGS property; access modification on up to 3 parcels; up to 132 acres of right-of-way needed  Total acquisition of up to 1 parcel  <b>Mitigation:</b> Compensate landowners via federal Uniform Relocation Act; use constrained cross section where possible to minimize roadway footprint in mine	<b>Impact:</b> Right-of-way acquired from 19 parcels (2 relocations) with majority from RGGS and State of Minnesota property; access modification on up to 5 parcels  <i>Intersection Option:</i> Up to 195 acres of right-of-way needed; total acquisition of up to 4 parcels  <i>Interchange Option:</i> Up to 197 acres of right-of-way needed; total acquisition of up to 6 parcels  <b>Mitigation:</b> Compensate landowners via federal Uniform Relocation Act; use constrained cross section where possible to minimize roadway footprint in Rouchleau Pit and on School Trust lands	<b>Impact:</b> Right-of-way acquired from 19 parcels (2 relocations) with majority from RGGS and State of Minnesota property; access modification on up to 5 parcels  <i>Intersection Option:</i> Up to 195 acres of right-of-way needed; total acquisition of up to 4 parcels  <i>Interchange Option:</i> Up to 197 acres of right-of-way needed; total acquisition of up to 6 parcels  <b>Mitigation:</b> Compensate landowners via federal Uniform Relocation Act; use constrained cross section where possible to minimize roadway footprint in Rouchleau Pit and on School Trust lands	<b>Impact:</b> Right-of-way required from 8 parcels (1 relocation) with majority from RGGS and State of Minnesota property; access modification on up to 3 parcels; up to 151 acres with <i>Intersection Option</i> and up to 156 acres of right-of-way needed with the <i>Interchange Option</i>  Total acquisition of up to 3 parcels for both <i>Intersection and Interchange Options</i>  <b>Mitigation:</b> Compensate landowners via federal Uniform Relocation Act; use constrained cross section where possible to minimize roadway footprint in Rouchleau Pit and on School Trust lands	<b>Impact:</b> Right-of-way required from 9 parcels (1 relocation) with majority from RGGS and State of Minnesota property; access modification on up to 3 parcels; up to 151 acres with <i>Intersection Option</i> and up to 156 acres of right-of-way needed with the <i>Interchange Option</i>  Total acquisition of up to 3 parcels for both <i>Intersection and Interchange Options</i>  <b>Mitigation:</b> Compensate landowners via federal Uniform Relocation Act; use constrained cross section where possible to minimize roadway footprint in Rouchleau Pit and on School Trust lands
Economic and Business	<b>Impact:</b> Substantial increase (adding 9 to 21 minutes) of travel times between destinations that cross mine; substantial loss of retail sales and local jobs in East Range and Quad Cities; increased community costs for emergency services, school transportation, and general public services  <b>Mitigation:</b> None proposed	<b>Impact:</b> Encumbrance of ferrous resources in the existing easement agreement area  <b>Mitigation:</b> Compensate the mine operator for lost production	<b>Impact:</b> Potential economic impact to mine operations to the extent that the mine operator has raised numerous concerns and opposition to this alternative  Moderate conflict with ferrous resources  High risk for air quality compliance to impact mine operations  <b>Mitigation:</b> Use constrained cross section where possible to minimize roadway footprint in mine; provide elevated tunnel to separate receptors on road from PM10 exceedances	<b>Impact:</b> No identified local/regional economic impact due to this alignment  Minor conflict with ferrous and non-ferrous metallic resources  Moderate risk for air quality compliance to impact mine operations  <b>Mitigation:</b> Use constrained cross section where possible to minimize roadway footprint in permit to mine area with RSS Option; future mine access bridge location identified for mine access under US 53 in RSS Option	<b>Impact:</b> No identified local/regional economic impact due to this alignment  Minor conflict with ferrous and non-ferrous metallic resources  Little risk for air quality compliance to impact mine operations  <b>Mitigation:</b> Use constrained cross section where possible to minimize roadway footprint in permit to mine area	<b>Impact:</b> No identified local/regional economic impact due to this alignment  Potential future conflict with ferrous and non-ferrous metallic resources  No risk for air quality compliance to impact mine operations  <b>Mitigation:</b> Use constrained cross section where possible to minimize roadway footprint in resource rich areas	<b>Impact:</b> No identified local/regional economic impact due to this alignment  Potential future conflict with ferrous and non-ferrous metallic resources  No risk for air quality compliance to impact mine operations  <b>Mitigation:</b> Use constrained cross section where possible to minimize roadway footprint in resource rich areas

Impact		No Build Alternative	Existing US 53 Alternative	Alternative M-1	Alternative E-1A RSS Option	Alternative E-1A Bridge Option	Alternative E-2 Straight Option	Alternative E-2 Curved Setback Option
<b>Parks/Section 4(f)</b>		<b>Parkland Impact:</b> Trails would continue until landowner removes them  <b>Parkland Mitigation:</b> None required  Note: Trails (Mesabi and snowmobile) may be relocated along No Build alignment (by others)  <b>Section 4(f) Impact:</b> None	No impact	<b>Parkland Impact:</b> Introduces new crossing of snowmobile trail near Cuyuna Drive. Trails would continue until landowner removes them.  <b>Parkland Mitigation:</b> Provide safe crossing for trail, as long as trail persists  Note: Snowmobile trail to be relocated by others; likely along MN 37 and Co. 7 in conjunction with Mesabi Trail  <b>Section 4(f) Impact:</b> None	<b>Parkland Impact:</b> Introduces new crossings of Mesabi and snowmobile trails. Trails would continue until landowner removes them.  <b>Parkland Mitigation:</b> Provide safe crossing for trail, as long as trail persists  Note: Trail may be relocated along the east side of alignment by permit, if funding is obtained by the SLLCRRA  <b>Section 4(f) Impacts</b> <i>Intersection Option:</i> Negligible impact to OHVRA activities, features or attributes (4.6 acres along west edge; anticipated de minimis Section 4(f) impact)  <i>Interchange Option:</i> Negligible impact to OHVRA activities, features or attributes (5.1 acres along west edge; anticipated de minimis Section 4(f) impact)  <b>Section 4(f) Mitigation:</b> OHVRA impacts minimized to extent possible; mitigation measures coordinated by FHWA with the DNR	<b>Parkland Impact:</b> Introduces new crossings of Mesabi and snowmobile trails. Trails would continue until landowner removes them.  <b>Parkland Mitigation:</b> Provide safe crossing for trail, as long as trail persists  Note: Trail may be relocated along the east side of alignment by permit, if funding is obtained by the SLLCRRA  <b>Section 4(f) Impacts</b> <i>Intersection Option:</i> Negligible impact to OHVRA activities, features or attributes (4.6 acres along west edge; anticipated de minimis Section 4(f) impact)  <i>Interchange Option:</i> Negligible impact to OHVRA activities, features or attributes (5.1 acres along west edge; anticipated de minimis Section 4(f) impact)  <b>Section 4(f) Mitigation:</b> OHVRA impacts minimized to extent possible; mitigation measures coordinated by FHWA with the DNR	<b>Parkland Impact:</b> Introduces new crossings of Mesabi and snowmobile trails. Trails would continue until landowner removes them.  <b>Parkland Mitigation:</b> Provide safe crossing for trail, as long as trail persists  Note: Trail may be relocated along the east side of alignment by permit, if funding is obtained by the SLLCRRA  <b>Section 4(f) Impacts</b> <i>Intersection Option:</i> Negligible impact to OHVRA activities, features or attributes (4.3 acres along west edge; anticipated de minimis Section 4(f) impact)  <i>Interchange Option:</i> Negligible impact to OHVRA activities, features or attributes (4.3 acres along west edge; anticipated de minimis Section 4(f) impact)  <b>Section 4(f) Mitigation:</b> OHVRA impacts minimized to extent possible; mitigation measures coordinated by FHWA with the DNR	<b>Parkland Impact:</b> Introduces new crossings of Mesabi and snowmobile trails. Trails would continue until landowner removes them.  <b>Parkland Mitigation:</b> Provide safe crossing for trail, as long as trail persists  Note: Trail may be relocated along the east side of alignment by permit, if funding is obtained by the SLLCRRA  <b>Section 4(f) Impacts</b> <i>Intersection Option:</i> Negligible impact to OHVRA activities, features or attributes (4.3 acres along west edge; anticipated de minimis Section 4(f) impact)  <i>Interchange Option:</i> Negligible impact to OHVRA activities, features or attributes (4.3 acres along west edge; anticipated de minimis Section 4(f) impact)  <b>Section 4(f) Mitigation:</b> OHVRA impacts minimized to extent possible; mitigation measures coordinated by FHWA with the DNR
<b>Cultural Resources</b>		No impact	No impact	No impact	No impact	No impact	No impact	No impact
<b>Land Use</b>		<b>Impact:</b> May result in intensified land uses associated with re-route roadways  <b>Mitigation:</b> None proposed	No impact	No impact	No impact	No impact	No impact	No impact
<b>Environmental Justice</b>		No disproportionately high or adverse impacts to minority or low income populations	No impact	No disproportionately high or adverse impacts to minority or low income populations	No disproportionately high or adverse impacts to minority or low income populations	No disproportionately high or adverse impacts to minority or low income populations	No disproportionately high or adverse impacts to minority or low income populations	No disproportionately high or adverse impacts to minority or low income populations
<b>Social, Neighborhood, and Community</b>		<b>Impact:</b> Substantial impacts to connections among Quad Cities and other localities; necessitates rerouting of school bus routes; emergency response times lengthened  <b>Mitigation:</b> None proposed	No impact	Negligible impact.  At-grade intersections at US 53 with 2nd Avenue and MN 135 would increase access to US 53 over what is currently provided by the interchanges at these locations.	Negligible impact  At-grade intersection at US 53 with 2nd Avenue would increase access to US 53 over what is currently provided by the existing interchange  <i>Intersection Option:</i> At-grade intersection at US 53 with MN 135 would increase access to US 53 over what is currently provided by the existing interchange  <i>Interchange Option:</i> A new interchange at MN 135 may increase access to US 53 compared to the existing interchange	Negligible impact  At-grade intersection at US 53 with 2nd Avenue would increase access to US 53 over what is currently provided by the existing interchange  <i>Intersection Option:</i> At-grade intersection at US 53 with MN 135 would increase access to US 53 over what is currently provided by the existing interchange  <i>Interchange Option:</i> A new interchange at MN 135 may increase access to US 53 compared to the existing interchange	Negligible impact  At-grade intersection at US 53 with 2nd Avenue would increase access to US 53 over what is currently provided by the existing interchange  <i>Intersection Option:</i> At-grade intersection at US 53 with MN 135 would increase access to US 53 over what is currently provided by the existing interchange  <i>Interchange Option:</i> A new interchange at MN 135 may increase access to US 53 compared to the existing interchange.	Negligible impact  At-grade intersection at US 53 with 2nd Avenue would increase access to US 53 over what is currently provided by the existing interchange  <i>Intersection Option:</i> At-grade intersection at US 53 with MN 135 would increase access to US 53 over what is currently provided by the existing interchange  <i>Interchange Option:</i> A new interchange at MN 135 may increase access to US 53 compared to the existing interchange.
<b>Visual and Aesthetics</b>	<b>Natural</b>	<b>Impact:</b> Minor beneficial change with views for travelers of more natural/open space	No impact	No impact	<b>Impact:</b> New views of open space from US 53	<b>Impact:</b> New views of open space from US 53	<b>Impact:</b> New views of open space from US 53	<b>Impact:</b> New views of open space from US 53

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	Cultural	<b>Impact:</b> Minor changes from residential, commercial, mine, and Mineview in the Sky properties	No impact	<b>Impact:</b> Views of mine and Virginia would be blocked if elevated tunnel is constructed	<b>Impact:</b> New view of Rouchleau Pit from US 53	<b>Impact:</b> New view of Rouchleau Pit from US 53	<b>Impact:</b> Change in views to/from UTAC mine and of Rouchleau Pit	<b>Impact:</b> Change in views to/from UTAC mine and of Rouchleau Pit
	Highway	<b>Impact:</b> Replacement signing for reroute; change from 4-lane divided to 2-lane undivided  <b>Mitigation:</b> None proposed	No impact	<b>Impact:</b> Views to and from highway would be blocked if elevated tunnel is constructed  <b>Mitigation:</b> MnDOT will develop visual quality guidelines for the project and take input from a Visual Quality Review Committee	<b>Impact:</b> Views to and from highway would be partially blocked by median and safety barriers; Landfill Road more visible from highway  <b>Mitigation:</b> MnDOT will develop visual quality guidelines for the project and take input from a Visual Quality Review Committee	<b>Impact:</b> Views to and from highway would be partially blocked by median and safety barriers; Landfill Road more visible from highway  <b>Mitigation:</b> MnDOT will develop visual quality guidelines for the project and take input from a Visual Quality Review Committee	<b>Impact:</b> Views to and from highway would be partially blocked by median and safety barriers  <b>Mitigation:</b> MnDOT will develop visual quality guidelines for the project and take input from a Visual Quality Review Committee	<b>Impact:</b> Views to and from highway would be partially blocked by median and safety barriers  <b>Mitigation:</b> MnDOT will develop visual quality guidelines for the project and take input from a Visual Quality Review Committee
Utilities		<b>Impact:</b> Existing utility permits would be terminated and utilities would need to relocate  <b>Mitigation:</b> None proposed	No impact	<b>Impact:</b> Existing utility permits would be terminated and utilities would need to relocate  <b>Mitigation:</b> MnDOT will coordinate with utility owners to find alternate utility route	<b>Impact:</b> Existing utility permits would be terminated and utilities would need to relocate  <b>Mitigation:</b> MnDOT will coordinate with utility owners to find alternate utility route	<b>Impact:</b> Existing utility permits would be terminated and utilities would need to relocate  <b>Mitigation:</b> MnDOT will coordinate with utility owners to find alternate utility route	<b>Impact:</b> Existing utility permits would be terminated and utilities would need to relocate  <b>Mitigation:</b> MnDOT will coordinate with utility owners to find alternate utility route	<b>Impact:</b> Existing utility permits would be terminated and utilities would need to relocate  <b>Mitigation:</b> MnDOT will coordinate with utility owners to find alternate utility route
Water Supply		No impact	No impact	No impact	<b>Impact:</b> Alignment within Virginia Inner Emergency Response Area; roadway runoff and spill containment important considerations in design to prevent water quality impacts  Potential drawdown of Rouchleau Pit and adjacent Enterprise Pit  <b>Mitigation:</b> Direct water to ArcelorMittal for mine operations and diversions to Sauntry Creek system from MnDOT dewatering (see Section 5.3), and/or modify ArcelorMittal's appropriation permit; stormwater conveyance/treatment and spill containment provisions; turbidity controls during construction; specifications for the source and nature of any fill material used (i.e., use of clean fill; use of mining by-products only if low in sulfides)	<b>Impact:</b> Alignment within Virginia Inner Emergency Response Area; roadway runoff and spill containment important considerations in design to prevent water quality impacts; localized dewatering  <b>Mitigation:</b> Turbidity controls during construction; stormwater conveyance/treatment and spill containment provisions; specifications for the source and nature of any fill material used (i.e., use of clean fill; use of mining by-products only if low in sulfides)	<b>Impact:</b> Alignment within Virginia Inner Emergency Response Area; roadway runoff and spill containment important considerations in design to prevent water quality impacts; localized dewatering  <b>Mitigation:</b> Turbidity controls during construction; stormwater conveyance/treatment and spill containment provisions; specifications for the source and nature of any fill material used (i.e., use of clean fill; use of mining by-products only if low in sulfides)	<b>Impact:</b> Alignment within Virginia Inner Emergency Response Area; roadway runoff and spill containment important considerations in design to prevent water quality impacts; localized dewatering  <b>Mitigation:</b> Turbidity controls during construction; stormwater conveyance/treatment and spill containment provisions; specifications for the source and nature of any fill material used (i.e., use of clean fill; use of mining by-products only if low in sulfides)
Water Body Modification		No impact	No impact	No impact	<b>Impact:</b> New road crossing of Rouchleau Pit on engineered fill slopes with RSS Option; possible temporary drawdown (up to 30 feet) of Rouchleau Pit during construction; options for dewatering discharge identified  <b>Mitigation:</b> Standard erosion control/construction BMPs	<b>Impact:</b> New bridge crossing over Rouchleau Pit; minor impacts from bridge piers  <b>Mitigation:</b> Standard erosion control/construction BMPs	<b>Impact:</b> New bridge crossing over Rouchleau Pit; minor impacts from bridge piers  <b>Mitigation:</b> standard erosion control/construction BMPs	<b>Impact:</b> New bridge crossing over Rouchleau Pit; minor impacts from bridge piers  <b>Mitigation:</b> standard erosion control/construction BMPs



Impact	No Build Alternative	Existing US 53 Alternative	Alternative M-1	Alternative E-1A RSS Option	Alternative E-1A Bridge Option	Alternative E-2 Straight Option	Alternative E-2 Curved Setback Option
Wetlands	No impact	No impact	<b>Impact:</b> Fill/excavation impacts of up to 9 acres of wetland, affecting 7 wetland areas <b>Mitigation:</b> Minimum 1:1 replacement wetland credit to be provided via withdrawal of banked credits per state and federal regulations	<b>Impact:</b> Fill/excavation impacts of up to 11 acres of wetland, affecting 17 wetland areas; negligible (less than 1 acre) difference between <i>Intersection and Interchange Options</i> <b>Mitigation:</b> Minimum 1:1 replacement wetland credit to be provided via withdrawal of banked credits per state and federal regulations	<b>Impact:</b> Fill/excavation impacts of up to 11 acres of wetland, affecting 17 wetland areas; negligible (less than 1 acre) difference between <i>Intersection and Interchange Options</i> <b>Mitigation:</b> Minimum 1:1 replacement wetland credit to be provided via withdrawal of banked credits per state and federal regulations	<b>Impact:</b> Fill/excavation impacts of up to 7 acres of wetland, affecting 15 wetland areas; negligible (less than 1 acre) difference between <i>Intersection and Interchange Options</i> <b>Mitigation:</b> Minimum 1:1 replacement wetland credit to be provided via withdrawal of banked credits per state and federal regulations	<b>Impact:</b> Fill/excavation impacts of up to approximately 9 acres of wetland, affecting 15 wetland areas; negligible (less than 1 acre) difference between <i>Intersection and Interchange Options</i> <b>Mitigation:</b> Minimum 1:1 replacement wetland credit to be provided via withdrawal of banked credits per state and federal regulations
Surface Water/Water Quantity and Quality	<b>Impact:</b> 23 acre reduction in impervious area due to road removal <b>Mitigation:</b> Implementation of standard BMPs for erosion control and handling taconite containing material during road removal	No impact	<b>Impact:</b> Net 11 acre reduction in impervious area <b>Mitigation:</b> Implementation of stormwater BMPs within project area	<b>Impact:</b> Requires pumping system for stormwater collected at fill low point to west side of Rouchleau Pit <i>Intersection Option:</i> Net 4 acre reduction in impervious area <i>Interchange Option:</i> Net 0.5 acre reduction in impervious area <b>Mitigation:</b> Implementation of stormwater BMPs within project area	<b>Impact:</b> Gravity drains stormwater to west side of Rouchleau Pit <i>Intersection Option:</i> Net 4 acre reduction in impervious area <i>Interchange Option:</i> Net 0.5 acre reduction in impervious area <b>Mitigation:</b> Implementation of stormwater BMPs within project area	<b>Impact:</b> <i>Intersection Option:</i> Net 3 acre reduction in impervious area <i>Interchange Option:</i> Net zero reduction in impervious area <b>Mitigation:</b> Implementation of stormwater BMPs within project area	<b>Impact:</b> <i>Intersection Option:</i> Net 3 acre reduction in impervious area <i>Interchange Option:</i> Net zero reduction in impervious area <b>Mitigation:</b> Implementation of stormwater BMPs within project area
Geology and Soils/Soil Erosion	No impact	No impact	<b>Impact:</b> Alignment crosses Biwabik Iron Formation  Slope stability and erosion issues associated with fill placement/ bridge(s) in Auburn Pit <b>Mitigation:</b> Implementation of erosion control BMPs within project area	<b>Impact:</b> Alignment crosses Biwabik Iron Formation  Slope stability and erosion issues associated with fill placement in Rouchleau Pit for the RSS fill <b>Mitigation:</b> Implementation of erosion control BMPs within project area	<b>Impact:</b> Alignment crosses Biwabik Iron Formation  Slope stability and erosion issues associated with bridge abutments at edge of Rouchleau Pit <b>Mitigation:</b> Implementation of erosion control BMPs within project area	<b>Impact:</b> Alignment crosses Biwabik Iron Formation  Slope stability and erosion issues associated with bridge abutments at edge of Rouchleau Pit <b>Mitigation:</b> Implementation of erosion control BMPs within project area	<b>Impact:</b> Alignment crosses Biwabik Iron Formation  Slope stability and erosion issues associated with bridge abutments at edge of Rouchleau Pit <b>Mitigation:</b> Implementation of erosion control BMPs within project area
Noise	<b>Impact:</b> Substantial noise level increases exceeding state noise standards along existing reroute roadways (MN 37, Co. 7, and Co. 101) <b>Mitigation:</b> None proposed	No impact	<b>Impact:</b> State noise standards would be exceeded at residential locations along the project corridor, specifically at Area D (Ridgewood north), Area E (Ridgewood east), and Area F (Midway) <b>Mitigation:</b> A noise wall is preliminarily cost effective at Area F (Midway)	<b>Impact:</b> State noise standards would be exceeded at residential locations along the project corridor, specifically at Area C (residential area north of US 53 and east of 2nd Avenue), Area F (Midway), and Area G (Bourgin Road)  Noise increase is essentially the same for the Intersection and Interchange Options (less than 1 dBA difference) <b>Mitigation:</b> A noise wall is preliminarily cost effective at Area F (Midway)	<b>Impact:</b> State noise standards would be exceeded at residential locations along the project corridor, specifically at Area C (residential area north of US 53 and east of 2nd Avenue), Area F (Midway), and Area G (Bourgin Road)  Noise increase is essentially the same for the Intersection and Interchange Options (less than 1 dBA difference) <b>Mitigation:</b> a noise wall is preliminarily cost effective at Area F (Midway)	<b>Impact:</b> State noise standards would be exceeded at residential locations along the project corridor, specifically in Area C (residential area north of US 53 and east of 2nd Avenue)  Noise increase is essentially the same for the Intersection and Interchange Options (less than 1 dBA difference) <b>Mitigation:</b> A noise wall is preliminarily cost effective at Area C (residential area north of US 53 and east of 2nd Avenue)	<b>Impact:</b> State noise standards would be exceeded at residential locations along the project corridor, specifically in Area C (residential area north of US 53 and east of 2nd Avenue), Area F (Midway), and Area G (Bourgin Road)  Noise increase is essentially the same for the Intersection and Interchange Options (less than 1 dBA difference) <b>Mitigation:</b> A noise wall is preliminarily cost effective at Area C (residential area north of US 53 and east of 2nd Avenue) and Area F (Midway)
Transportation-Related Air Quality	No impact	No impact	No impact	No impact	No impact	No impact	No impact

Impact	No Build Alternative	Existing US 53 Alternative	Alternative M-1	Alternative E-1A RSS Option	Alternative E-1A Bridge Option	Alternative E-2 Straight Option	Alternative E-2 Curved Setback Option
Vegetation and Cover Types	No impact	No impact	<b>Impact:</b> Converts up to 8 acres of forest and 9 acres of wetland to right-of-way <b>Mitigation:</b> See Wetlands	<b>Impact:</b> <i>Intersection Option:</i> Converts up to 28 acres of forest and 10 acres of wetland to right-of-way  <i>Interchange Option:</i> Converts up to 33 acres of forest and 11 acres of wetland to right-of-way <b>Mitigation:</b> See Wetlands. BMPs for control of weeds and invasive species would be followed near sensitive areas.	<b>Impact:</b> <i>Intersection Option:</i> Converts up to 28 acres of forest and 10 acres of wetland to right-of-way  <i>Interchange Option:</i> Converts up to 33 acres of forest and 11 acres of wetland to right-of-way <b>Mitigation:</b> See Wetlands. BMPs for control of weeds and invasive species would be followed near sensitive areas.	<b>Impact:</b> <i>Intersection Option:</i> Converts up to 33 acres of forest and 7 acres of wetland to right-of-way  <i>Interchange Option:</i> Converts up to 37 acres of forest and 7 acres of wetland to right-of-way <b>Mitigation:</b> See Wetlands. BMPs for control of weeds and invasive species would be followed near sensitive areas.	<b>Impact:</b> <i>Intersection Option:</i> Converts up to 43 acres of forest and 9 acres of wetland to right-of-way  <i>Interchange Option:</i> Converts up to 47 acres of forest and 9 acres of wetland to right-of-way <b>Mitigation:</b> See Wetlands. BMPs for control of weeds and invasive species would be followed near sensitive areas.
Fish and Wildlife	No impact	No impact	No impact	<b>Impact:</b> Negligible to minor impacts <b>Mitigation:</b> Peregrine falcon survey to be coordinated with DNR if needed	<b>Impact:</b> Negligible to minor impacts <b>Mitigation:</b> Peregrine falcon survey to be coordinated with DNR if needed	<b>Impact:</b> Negligible to minor impacts <b>Mitigation:</b> Peregrine falcon survey to be coordinated with DNR if needed	<b>Impact:</b> Negligible to minor impacts <b>Mitigation:</b> Peregrine falcon survey to be coordinated with DNR if needed
Threatened & Endangered Species	No impact	No impact	No impact  MnDOT is coordinating with the USFWS and DNR to assess the potential for impacts to the northern long-eared bat, proposed for listing as an endangered species. Based on current information, the impacts of this alternative are not anticipated to jeopardize the continued existence of the species.	No impact  MnDOT is coordinating with the USFWS and DNR to assess the potential for impacts to the northern long-eared bat, proposed for listing as an endangered species. Based on current information, the impacts of this alternative are not anticipated to jeopardize the continued existence of the species.	No impact  MnDOT is coordinating with the USFWS and DNR to assess the potential for impacts to the northern long-eared bat, proposed for listing as an endangered species. Based on current information, the impacts of this alternative are not anticipated to jeopardize the continued existence of the species.	No impact  MnDOT is coordinating with the USFWS and DNR to assess the potential for impacts to the northern long-eared bat, proposed for listing as an endangered species. Based on current information, the impacts of this alternative are not anticipated to jeopardize the continued existence of the species.	No impact  MnDOT is coordinating with the USFWS and DNR to assess the potential for impacts to the northern long-eared bat, proposed for listing as an endangered species. Based on current information, the impacts of this alternative are not anticipated to jeopardize the continued existence of the species.
Hazardous Materials and Contaminated Properties	No impact	No impact	<b>Impact:</b> 17 contamination risk properties within area of evaluation; 2 were evaluated in Phase II assessment; 2 sites recommended for further investigation or consideration <b>Mitigation:</b> A Response Action Plan will be prepared prior to right-of-way acquisition for handling of contaminants; standard BMPs for handling taconite-containing materials and spills will be followed	<b>Impact:</b> 16 contamination risk properties within area of evaluation; 6 were evaluated in Phase II assessment; 3 sites recommended for further investigation or consideration  There are no differences between the Intersection Option and Interchange Option <b>Mitigation:</b> A Response Action Plan will be prepared prior to right-of-way acquisition for handling of contaminants; standard BMPs for handling taconite-containing materials and spills will be followed	<b>Impact:</b> 16 contamination risk properties within area of evaluation; 6 were evaluated in Phase II assessment; 3 sites recommended for further investigation or consideration  There are no differences between the Intersection Option and Interchange Option <b>Mitigation:</b> A Response Action Plan will be prepared prior to right-of-way acquisition for handling of contaminants; standard BMPs for handling taconite-containing materials and spills will be followed	<b>Impact:</b> 9 contamination risk properties within area of evaluation; 4 were evaluated in Phase II assessment; 2 sites recommended for further investigation or consideration  There are no differences between the Intersection and Interchange Options <b>Mitigation:</b> A Response Action Plan will be prepared prior to right-of-way acquisition for handling of contaminants; standard BMPs for handling taconite-containing materials and spills will be followed	<b>Impact:</b> 9 contamination risk properties within area of evaluation; 4 were evaluated in Phase II assessment; 2 sites recommended for further investigation or consideration  There are no differences between the Intersection and Interchange Options <b>Mitigation:</b> A Response Action Plan will be prepared prior to right-of-way acquisition for handling of contaminants; standard BMPs for handling taconite-containing materials and spills will be followed
Excess Material	No impact	No impact	<b>Impact::</b> Net import: 2.8 million cubic yards Export: 80,000 cubic yards Import: 2,900,000 cubic yards <b>Mitigation:</b> None proposed	<b>Impact:</b> <i>Intersection Option:</i> Net import: 1,700,000 cubic yards Export: 3,300,000 cubic yards Import: 5,000,000 cubic yards  <i>Interchange Option:</i> Net import: 220,000 cubic yards Export: 3,100,000 cubic yards Import: 5,300,000 cubic yards <b>Mitigation:</b> Fill placed within the Rouchleau Pit will be reviewed with MPCA and will meet specifications for the source and nature of the fill (i.e., use of clean fill; use of mining by-products only if low in sulfides)	<b>Impact:</b> <i>Intersection Option:</i> Net export: 480,000 cubic yards Export: 650,000 cubic yards Import: 170,000 cubic yards  <i>Interchange Option:</i> Net export: 255,000 cubic yards Export: 625,000 cy Import: 370,000 cy <b>Mitigation:</b> Fill placed within the Rouchleau Pit will be reviewed with MPCA and will meet specifications for the source and nature of the fill (i.e., use of clean fill; use of mining by-products only if low in sulfides)	<b>Impact:</b> <i>Intersection Option:</i> Net export: 95,000 cubic yards Export: 725,000 cubic yards Import: 630,000 cubic yards  <i>Interchange Option:</i> Net import: 150,000 cubic yards Export: 700,000 cubic yards Import: 850,000 cubic yards <b>Mitigation:</b> Fill placed within the Rouchleau Pit will be reviewed with MPCA and will meet specifications for the source and nature of the fill (i.e., use of clean fill; use of mining by-products only if low in sulfides)	<b>Impact:</b> <i>Intersection Option:</i> Net export: 0 cubic yards Export: 700,000 cubic yards Import: 700,000 cubic yards  <i>Interchange Option:</i> Net import: 245,000 cubic yards Export: 680,000 cubic yards Import: 925,000 cubic yards <b>Mitigation:</b> Fill placed within the Rouchleau Pit will be reviewed with MPCA and will meet specifications for the source and nature of the fill (i.e., use of clean fill; use of mining by-products only if low in sulfides)

Impact		No Build Alternative	Existing US 53 Alternative	Alternative M-1	Alternative E-1A RSS Option	Alternative E-1A Bridge Option	Alternative E-2 Straight Option	Alternative E-2 Curved Setback Option
Geotechnical and Earthborne Vibration		No impact	No impact	<b>Impact:</b> Stability and settlement of existing fill material a concern; proximity to mine blasting (located within active mine) <b>Mitigation:</b> Special design would be required for slope stability	<b>Impact:</b> Stability and settlement of existing submerged haul road a concern; future proximity to mine blasting <b>Mitigation:</b> Special design would be required for slope stability	<b>Impact:</b> Potential settlement issues; bridge may be susceptible to vibrations from nearby blasting <b>Mitigation:</b> Special design would be required for bridge stability	<b>Impact:</b> Potential settlement issues; bridge may be susceptible to vibrations from nearby blasting <b>Mitigation:</b> Special design would be required for bridge stability	<b>Impact:</b> Potential settlement issues; bridge may be susceptible to vibrations from nearby blasting <b>Mitigation:</b> Special design would be required for bridge stability
Climate Change		No impact	No impact	No impact	No impact	No impact	No impact	No impact
Construction Impacts	Visual and Aesthetics	<b>Impact:</b> Temporary impacts related to visibility of construction workers and equipment when removing existing US 53 pavement <b>Mitigation:</b> None proposed	No impact	<b>Impact:</b> Temporary impacts related to visibility of construction workers and equipment <b>Mitigation:</b> None proposed	<b>Impact:</b> Temporary impacts related to visibility of construction workers and equipment <b>Mitigation:</b> None proposed	<b>Impact:</b> Temporary impacts related to visibility of construction workers and equipment <b>Mitigation:</b> None proposed	<b>Impact:</b> Temporary impacts related to visibility of construction workers and equipment <b>Mitigation:</b> None proposed	<b>Impact:</b> Temporary impacts related to visibility of construction workers and equipment <b>Mitigation:</b> None proposed
	Economics and Business	<b>Impact:</b> Temporary access restrictions during construction <b>Mitigation:</b> Manage business impacts during construction	No impact	<b>Impact:</b> Temporary access restrictions during construction <b>Mitigation:</b> Manage business impacts during construction	<b>Impact:</b> Temporary access restrictions during construction <b>Mitigation:</b> Manage business impacts during construction	<b>Impact:</b> Temporary access restrictions during construction <b>Mitigation:</b> Manage business impacts during construction	<b>Impact:</b> Temporary access restrictions during construction <b>Mitigation:</b> Manage business impacts during construction	<b>Impact:</b> Temporary access restrictions during construction <b>Mitigation:</b> Manage business impacts during construction
	Utilities	<b>Impact:</b> Temporary interruptions in service <b>Mitigation:</b> Provide notice to utility operators early	No impact	<b>Impact:</b> Temporary interruptions in service <b>Mitigation:</b> Provide notice to utility operators early	<b>Impact:</b> Temporary interruptions in service <b>Mitigation:</b> Provide notice to utility operators early	<b>Impact:</b> Temporary interruptions in service <b>Mitigation:</b> Provide notice to utility operators early	<b>Impact:</b> Temporary interruptions in service <b>Mitigation:</b> Provide notice to utility operators early	<b>Impact:</b> Temporary interruptions in service <b>Mitigation:</b> Provide notice to utility operators early
	Wetlands	No impact	No impact	No additional impact	No additional impact	No additional impact	No additional impact	No additional impact
	Noise	<b>Impact:</b> Unavoidable noise impacts related to construction equipment <b>Mitigation:</b> Standard MnDOT construction noise practices	No impact	<b>Impact:</b> Unavoidable noise impacts related to construction equipment <b>Mitigation:</b> Standard MnDOT construction noise practices	<b>Impact:</b> Unavoidable noise impacts related to construction equipment <b>Mitigation:</b> Standard MnDOT construction noise practices	<b>Impact:</b> Unavoidable noise impacts related to construction equipment <b>Mitigation:</b> Standard MnDOT construction noise practices	<b>Impact:</b> Unavoidable noise impacts related to construction equipment <b>Mitigation:</b> Standard MnDOT construction noise practices	<b>Impact:</b> Unavoidable noise impacts related to construction equipment <b>Mitigation:</b> Standard MnDOT construction noise practices
	Air Quality	<b>Impact:</b> Temporary increase in dust/airborne particles; minimal impacts related to emissions from construction equipment <b>Mitigation:</b> Standard dust control BMPs such as watering would be implemented	No impact	<b>Impact:</b> Temporary increase in dust/airborne particles; minimal impacts related to emissions from construction equipment <b>Mitigation:</b> Standard dust control BMPs such as watering would be implemented	<b>Impact:</b> Temporary increase in dust/airborne particles; minimal impacts related to emissions from construction equipment <b>Mitigation:</b> Standard dust control BMPs such as watering would be implemented	<b>Impact:</b> Temporary increase in dust/airborne particles; minimal impacts related to emissions from construction equipment <b>Mitigation:</b> Standard dust control BMPs such as watering would be implemented	<b>Impact:</b> Temporary increase in dust/airborne particles; minimal impacts related to emissions from construction equipment <b>Mitigation:</b> Standard dust control BMPs such as watering would be implemented	<b>Impact:</b> Temporary increase in dust/airborne particles; minimal impacts related to emissions from construction equipment <b>Mitigation:</b> Standard dust control BMPs such as watering would be implemented
	Hazardous and Regulated Materials	No impact	No impact	<b>Impact:</b> Unidentified contaminants, taconite tailings or other materials may be encountered <b>Mitigation:</b> Handling of regulated materials/wastes per management plan, response action plan, demolition plan, and MnDOT Guidance documents	<b>Impact:</b> Unidentified contaminants, taconite tailings or other materials may be encountered <b>Mitigation:</b> Handling of regulated materials/wastes per management plan, response action plan, demolition plan, and MnDOT Guidance documents	<b>Impact:</b> Unidentified contaminants, taconite tailings or other materials may be encountered <b>Mitigation:</b> Handling of regulated materials/wastes per management plan, response action plan, demolition plan, and MnDOT Guidance documents	<b>Impact:</b> Unidentified contaminants, taconite tailings or other materials may be encountered <b>Mitigation:</b> Handling of regulated materials/wastes per management plan, response action plan, demolition plan, and MnDOT Guidance documents	<b>Impact:</b> Unidentified contaminants, taconite tailings or other materials may be encountered <b>Mitigation:</b> Handling of regulated materials/wastes per management plan, response action plan, demolition plan, and MnDOT Guidance documents
	Excess Materials	<b>Impact:</b> Asphalt/concrete disposal <b>Mitigation:</b> Disposal of excess material per approved disposal plan	No impact	<b>Impact:</b> Import of construction fill and removal of unusable soils <b>Mitigation:</b> Disposal of excess material per approved disposal plan	<b>Impact:</b> Import of construction fill and removal of unusable soils <b>Mitigation:</b> Disposal of excess material per approved disposal plan	<b>Impact:</b> Import of construction fill and removal of unusable soils <b>Mitigation:</b> Disposal of excess material per approved disposal plan	<b>Impact:</b> Import of construction fill and removal of unusable soils <b>Mitigation:</b> Disposal of excess material per approved disposal plan	<b>Impact:</b> Import of construction fill and removal of unusable soils <b>Mitigation:</b> Disposal of excess material per approved disposal plan



Impact		No Build Alternative	Existing US 53 Alternative	Alternative M-1	Alternative E-1A RSS Option	Alternative E-1A Bridge Option	Alternative E-2 Straight Option	Alternative E-2 Curved Setback Option
	Geotechnical and Earthborne Vibrations	No impact	No impact	<b>Impact:</b> Blasting, pile driving, compacting, and/or pavement breaking or operation of construction equipment may result in temporary earthborn vibrations that could affect homes  <b>Mitigation:</b> Vibration monitoring would be used. Blasting may be required for each Build Alternative, which could result in some additional temporary road closures similar to those experienced for mine blasting. However, much of the construction for the Build Alternatives is on new alignments and can be constructed with minimal disruption to current US 53 travelers. Blasting, when needed, will be scheduled for minimal disruption.	<b>Impact:</b> Blasting, pile driving, compacting, and/or pavement breaking or operation of construction equipment may result in temporary earthborn vibrations that could affect homes  <b>Mitigation:</b> Vibration monitoring would be used. Blasting may be required for each Build Alternative, which could result in some additional temporary road closures similar to those experienced for mine blasting. However, much of the construction for the Build Alternatives is on new alignments and can be constructed with minimal disruption to current US 53 travelers. Blasting, when needed, will be scheduled for minimal disruption.	<b>Impact:</b> Blasting, pile driving, compacting, and/or pavement breaking or operation of construction equipment may result in temporary earthborn vibrations that could affect homes  <b>Mitigation:</b> Vibration monitoring would be used. Blasting may be required for each Build Alternative, which could result in some additional temporary road closures similar to those experienced for mine blasting. However, much of the construction for the Build Alternatives is on new alignments and can be constructed with minimal disruption to current US 53 travelers. Blasting, when needed, will be scheduled for minimal disruption.	<b>Impact:</b> Blasting, pile driving, compacting, and/or pavement breaking or operation of construction equipment may result in temporary earthborn vibrations that could affect homes  <b>Mitigation:</b> Vibration monitoring would be used. Blasting may be required for each Build Alternative, which could result in some additional temporary road closures similar to those experienced for mine blasting. However, much of the construction for the Build Alternatives is on new alignments and can be constructed with minimal disruption to current US 53 travelers. Blasting, when needed, will be scheduled for minimal disruption.	<b>Impact:</b> Blasting, pile driving, compacting, and/or pavement breaking or operation of construction equipment may result in temporary earthborn vibrations that could affect homes  <b>Mitigation:</b> Vibration monitoring would be used. Blasting may be required for each Build Alternative, which could result in some additional temporary road closures similar to those experienced for mine blasting. However, much of the construction for the Build Alternatives is on new alignments and can be constructed with minimal disruption to current US 53 travelers. Blasting, when needed, will be scheduled for minimal disruption.
	Stormwater	<b>Impact:</b> Potential for erosion during existing US 53 roadway removal  <b>Mitigation:</b> NPDES Stormwater permit for construction activity, including BMPs, temporary construction measures, and erosion control plan, would be acquired and complied with throughout construction. After construction, all disturbed areas would be sodded or seeded.	No impact	<b>Impact:</b> Potential for erosion during construction  <b>Mitigation:</b> NPDES Stormwater permit for construction activity, including BMPs, temporary construction measures, and erosion control plan, would be acquired and complied with throughout construction. After construction, all disturbed areas would be sodded or seeded.	<b>Impact:</b> Potential for erosion during construction  <b>Mitigation:</b> NPDES Stormwater permit for construction activity, including BMPs, temporary construction measures, and erosion control plan, would be acquired and complied with throughout construction. After construction, all disturbed areas would be sodded or seeded.	<b>Impact:</b> Potential for erosion during construction  <b>Mitigation:</b> NPDES Stormwater permit for construction activity, including BMPs, temporary construction measures, and erosion control plan, would be acquired and complied with throughout construction. After construction, all disturbed areas would be sodded or seeded.	<b>Impact:</b> Potential for erosion during construction  <b>Mitigation:</b> NPDES Stormwater permit for construction activity, including BMPs, temporary construction measures, and erosion control plan, would be acquired and complied with throughout construction. After construction, all disturbed areas would be sodded or seeded.	<b>Impact:</b> Potential for erosion during construction  <b>Mitigation:</b> NPDES Stormwater permit for construction activity, including BMPs, temporary construction measures, and erosion control plan, would be acquired and complied with throughout construction. After construction, all disturbed areas would be sodded or seeded.
	Water Supply/ Water Body Modification	No impact	No impact	No impact	<b>Impact:</b> Potential for construction dewatering/appropriation for Rouchleau Pit activities  <b>Mitigation:</b> NPDES Stormwater permit for construction activity, including BMPs, temporary construction measures, and erosion control plan, would be acquired and complied with throughout construction. DNR water appropriation permit may identify mitigation measures. Dewatering discharge options would be considered water transfers to waters of the state and would not be subject to MPCA water quality permitting, provided that there is no intervening use of the water and no pollutants are introduced.	<b>Impact:</b> Potential for construction dewatering/appropriation for Rouchleau Pit activities  <b>Mitigation:</b> NPDES Stormwater permit for construction activity, including BMPs, temporary construction measures, and erosion control plan, would be acquired and complied with throughout construction. DNR water appropriation permit may identify mitigation measures. Dewatering discharge options would be considered water transfers to waters of the state and would not be subject to MPCA water quality permitting, provided that there is no intervening use of the water and no pollutants are introduced.	<b>Impact:</b> Potential for construction dewatering/appropriation for Rouchleau Pit activities  <b>Mitigation:</b> NPDES Stormwater permit for construction activity, including BMPs, temporary construction measures, and erosion control plan, would be acquired and complied with throughout construction. DNR water appropriation permit may identify mitigation measures. Dewatering discharge options would be considered water transfers to waters of the state and would not be subject to MPCA water quality permitting, provided that there is no intervening use of the water and no pollutants are introduced.	<b>Impact:</b> Potential for construction dewatering/appropriation for Rouchleau Pit activities  <b>Mitigation:</b> NPDES Stormwater permit for construction activity, including BMPs, temporary construction measures, and erosion control plan, would be acquired and complied with throughout construction. DNR water appropriation permit may identify mitigation measures. Dewatering discharge options would be considered water transfers to waters of the state and would not be subject to MPCA water quality permitting, provided that there is no intervening use of the water and no pollutants are introduced.

Impact	No Build Alternative	Existing US 53 Alternative	Alternative M-1	Alternative E-1A RSS Option	Alternative E-1A Bridge Option	Alternative E-2 Straight Option	Alternative E-2 Curved Setback Option
Short-Term Use and Long-Term Productivity	Substantial long-term transportation inefficiencies	<p>The long-term transportation service and efficiency benefits would outweigh short-term adverse impacts to the physical/natural environment. Short-term impacts to the natural environment would be mitigated to alleviate long-term consequences.</p> <p>Would result in the short-term use of resources, but short-term use of these resources is consistent with long-term productivity of the area</p>	<p>The long-term transportation service and efficiency benefits would outweigh short-term adverse impacts to the physical/natural environment. Short-term impacts to the natural environment would be mitigated to alleviate long-term consequences.</p> <p>Would result in the short-term use of resources, but short-term use of these resources is consistent with long-term productivity of the area</p>	<p>The long-term transportation service and efficiency benefits would outweigh short-term adverse impacts to the physical/natural environment. Short-term impacts to the natural environment would be mitigated to alleviate long-term consequences.</p> <p>Would result in the short-term use of resources, but short-term use of these resources is consistent with long-term productivity of the area</p>	<p>The long-term transportation service and efficiency benefits would outweigh short-term adverse impacts to the physical/natural environment. Short-term impacts to the natural environment would be mitigated to alleviate long-term consequences.</p> <p>Would result in the short-term use of resources, but short-term use of these resources is consistent with long-term productivity of the area</p>	<p>The long-term transportation service and efficiency benefits would outweigh short-term adverse impacts to the physical/natural environment. Short-term impacts to the natural environment would be mitigated to alleviate long-term consequences.</p> <p>Would result in the short-term use of resources, but short-term use of these resources is consistent with long-term productivity of the area</p>	<p>The long-term transportation service and efficiency benefits would outweigh short-term adverse impacts to the physical/natural environment. Short-term impacts to the natural environment would be mitigated to alleviate long-term consequences.</p> <p>Would result in the short-term use of resources, but short-term use of these resources is consistent with long-term productivity of the area</p>
Irreversible and Irretrievable	Increased energy consumption and financial resources for travelers and communities due to increased travel time	One-time expenditure of irretrievable state and federal funds, considered long-term investment; land used for the project is considered an irreversible commitment during the time period that the land is used for a highway facility	One-time expenditure of irretrievable state and federal funds, considered long-term investment; land used for the project is considered an irreversible commitment during the time period that the land is used for a highway facility	One-time expenditure of irretrievable state and federal funds, considered long-term investment; land used for the project is considered an irreversible commitment during the time period that the land is used for a highway facility	One-time expenditure of irretrievable state and federal funds, considered long-term investment; land used for the project is considered an irreversible commitment during the time period that the land is used for a highway facility	One-time expenditure of irretrievable state and federal funds, considered long-term investment; land used for the project is considered an irreversible commitment during the time period that the land is used for a highway facility	One-time expenditure of irretrievable state and federal funds, considered long-term investment; land used for the project is considered an irreversible commitment during the time period that the land is used for a highway facility
Total Capital Costs for Construction	\$1-2 million	\$400-600 million	\$315-450 million	<i>Intersection Option:</i> \$195-300 million <i>Interchange Option:</i> Additional cost of \$4 million	<i>Intersection Option:</i> \$175-270 million <i>Interchange Option:</i> Additional cost of \$4 million	<i>Intersection Option:</i> \$180-240 million <i>Interchange Option:</i> Additional cost of \$4 million	<i>Intersection Option:</i> \$180-240 million <i>Interchange Option:</i> Additional cost of \$4 million